

Rev03  
 Update: Dec,14,2021

**DATASHEET**

# IL-4, His, Rat

Cat. No.: Z03206

## Product Introduction

<b>Species</b>	Rat
<b>Protein Construction</b>	<div style="display: flex; align-items: center; gap: 10px;"> <div style="background-color: #0056b3; color: white; padding: 5px; text-align: center;">             IL-4 (His23-Ser147)              Accession # P20096           </div> <div style="background-color: #76b82a; color: white; padding: 5px; text-align: center;">             Poly-His           </div> </div> <div style="display: flex; justify-content: space-around; margin-top: 5px; font-size: small;"> <span>N-term</span> <span>C-term</span> </div>
<b>Purity</b>	> 95% as analyzed by SDS-PAGE
<b>Endotoxin Level</b>	< 0.2 EU/μg of protein by gel clotting method
<b>Biological Activity</b>	ED <sub>50</sub> < 0.2 μg/ml, measured in a proliferation assay using C6 cells.
<b>Expression System</b>	CHO
<b>Apparent Molecular Weight</b>	18~22 kDa, on SDS-PAGE under reducing conditions.
<b>Formulation</b>	Lyophilized after extensive dialysis against PBS.
<b>Reconstitution</b>	It is recommended that this vial be briefly centrifuged prior to opening to bring the contents to the bottom. Reconstitute the lyophilized powder in ddH <sub>2</sub> O or PBS up to 100 μg/ml.
<b>Storage &amp; Stability</b>	Upon receiving, this product remains stable for up to 6 months at lower than -70°C. Upon reconstitution, the product should be stable for up to 1 week at 4°C or up to 3 months at -20°C. For long term storage it is recommended that a carrier protein (example 0.1% BSA) be added. Avoid repeated freeze-thaw cycles.

## Background

**Target Background :** Interleukin-4 (IL-4) is a pleiotropic cytokine regulates diverse T and B cell responses including cell proliferation, survival, and gene expression. It has important effects on the growth and differentiation of different immunologically competent cells. Interleukin-4 is produced by mast cells, T cells, and bone marrow stromal cells. IL-4 regulates the differentiation of native CD4<sup>+</sup> T cells (Th0 cells) into helper Th2 cells, and regulates the immunoglobulin class switching to the IgG1 and IgE isotypes. IL-4 has numerous important biological functions including stimulating B-cells activation, T-cell proliferation and CD4<sup>+</sup> T-cells differentiation to Th2 cells. It is a key regulator in hormone control and adaptive immunity. IL-4 also plays a major role in inflammation response and wound repair via activation of macrophage into M2 cells. IL-4 is stabilized by three disulphide bonds forming a compact globular protein structure. Four alpha-helix bundle with left-handed twist is dominated half of the protein structure with 2 overhand connections and fall into a 2-stranded anti-parallel beta sheet.

**Synonyms :** IL4; B cell growth factor-1; BCGF-1; B cell stimulatory factor-1; BSF-1; B cell differentiation factor; BCDF; T cell growth factor-2; TCGF-2; Mast-cell growth factor-2; MCGF-2

**For laboratory research use only. Direct human use, including taking orally and injection and clinical use are forbidden.**